KEY - Highs and Lows, Project Atmosphere Module

Tracking Extratropical Cyclone Weather

1. Along Track _____, Detroit experienced the passage of fronts.
    - Answer: (b) B
2. As the cyclone approaches Detroit along Track A, the wind shifts from the east to the _____.
    - Answer: (a) northeast
3. As the cyclone passes along Track A, Detroit is on the _____ side of the system.
    - Answer: (a) cold
4. As the cyclone approaches Detroit along Track B, the wind shifts from the east to the _____.
    - Answer: (b) southeast
5. Considering the motion of the fronts along Track B, Detroit experiences weather from the _____ sector.
    - Answer: (b) warm
6. Along Track _____, Detroit will likely experience an extended snowfall period. If the cyclone moves along Track _____, Detroit is more likely to experience two periods of precipitation, likely rain.
    - Answer: (a) A … B
7. As the cyclone's center approaches Detroit, air pressure _____, and as the center moves away, air pressure _____.
    - Answer: (c) falls … rises

Evaluate Section

8. About a surface low-pressure system, air _____ and circulates _____ as it travels upward.
    - Answer: (b) converges … counterclockwise
9. About a surface high-pressure system, air _____ and circulates _____ as it travels downward.
    - Answer: (c) diverges … clockwise
10. Air masses are associated with the center of a _____-pressure system.

- Answer: (a) high

11. Rising air in an extratropical cyclone expands and _____ until it achieves saturation. Further cooling allows water vapor to _____, forming clouds.
    - Answer: (c) cools … condense
12. A position of the surface low on the _____ side of an upper-level trough axis promotes further cyclone development.
    - Answer: (a) east
13. Cold air advection occurs to the _____ of a surface low, and warm air advection occurs to the _____.
    - Answer: (b) northwest … southeast
14. In the top map (high), the wind direction at Minneapolis is likely from the _____, and at Dallas from the _____.
    - Answer: (d) southwest … northeast
15. In the bottom map (low), the wind direction at Minneapolis is likely from the _____, and at Dallas from the _____.
    - Answer: (b) northeast … southwest
16. In the bottom map, which city is likely experiencing the warmest temperature?
    - Answer: (b) Indianapolis

Acknowledgment: The author(s) used ChatGPT to pull the correct answers from the module document and then double-checked this with the module questions